



State of Montana
Office of Public Instruction

Agency IT Plan
Fiscal Year 2012-2017

May 2012

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EXECUTIVE SUMMARY

The focus of the Office of Public Instruction's previous IT strategic plans focused on the implementation of a Statewide Student Information System. With the completion of this effort, the statewide student information system (AIM) serves as the foundation of many OPI services. The system was successfully implemented in FY07 and now supports many upcoming OPI goals and initiatives.

Both Goal 1 and Goal 6 are focused on governing and analyzing student data housed in AIM in order to help improve education within Montana.

The Data Warehouse effort (Goal 1) is a federally funded initiative to establish a statewide longitudinal data system for K-12 data. The warehouse will be populated primarily with data collected in AIM and will allow educators, regulators and other qualified stakeholders to easily obtain and analyze data associated with K-12 education. The data warehouse will also provide the means to report the data required by 20-7-104, MCA.

The Student Transcript Data Systems effort (Goal 6) expands on Goal 1 and establishes connections between the OPI and post-secondary education. By collecting data from the Office of the Commissioner of Higher Education into one data store a more complete picture will be gained on how well the K-12 education system prepares students for higher education. The Student Transcript initiative is dependent on obtaining adequate funding to execute the project

Goal 2 describes the agency's efforts to modernize and create efficiencies within IT systems. Projects such as server virtualization and conversion of applications to .NET will result in lower ongoing costs to the agency and allow for easier maintenance of applications.

Goal 3 describes how the agency continues to modernize and enhance its information technology systems including a new web-based report card and a school staffing application.

The web report card application will replace the outdated application the OPI currently uses and make complying with the federal mandate of publishing school performance data more efficient as well as making the information easier to view by the general public.

The school staffing application will integrate educator information from several sources, including salary and benefits; educator qualifications, credentials, and experience; licensure status; and school and district personnel assignments. The data and analysis will be used to inform policymakers about highly qualified teachers, areas of critical teacher shortages, economic factors affecting the supply and demand for educators, and professional development needs.

With large efforts such as the data warehouse and the Student Transcript data systems projects starting up, it will become more important to establish a robust project management culture within the agency. Goal 5 describes the efforts the agency will take to enhance project management within the agency and to improve the contract management process.

Security has always been a primary concern of the agency and as the agency collects and stores more data on Montana students it rises even higher in the OPI's priorities. Goal 7 stresses the importance of security and the agency's intention to comply with the recently published statewide policy for information security programs. An initial and important step in complying with the new policy is the agency's recent purchase of an identity management system and the inclusion of that project in Goal 7.

SECTION 1: AGENCY ADMINISTRATIVE INFORMATION

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IT Inventory

The IT inventory database located at <http://mine.mt.gov/enterpriseitinventory> was or will be updated on <Date> As required by MCA 2-17-524(3)(c) the plan will be updated by June 30th, 2012.

SECTION 2: AGENCY IT MISSION

The mission of the OPI's IT Division is to provide quality information services and products in order to support the agency in providing vision, advocacy, support and leadership for schools and communities to ensure that all students meet today's challenges and tomorrow's opportunities.

SECTION 3: AGENCY REQUIRED PROGRAMS

Information Security Management (ISM) Program General Description

The Office of Public Instruction (OPI) has implemented plans for an agency information security management program compliant with §2-15-114, MCA and State Information Technology Systems Division *Information Security Programs* policy with adoption of the National Institute of Standards and Technology (NIST) Special Publication 800 series as guides for establishing appropriate security procedures. This is in alignment with the State of Information Technology Service's direction for an enterprise approach to protect sensitive and critical information being housed and shared on State and/or external/commercial information assets or systems.

The agency is currently developing an Information Risk Management Strategy as described in NIST SP 800-39, to guide the agency through information security lifecycle architecture with application of risk management. This structure provides a programmatic approach to reducing the level of risk to an acceptable level, while ensuring legal and regulatory mandates are met in accordance with MCA §2-15-114.

The agency's program will have four components, which interact with each other in a continuous improvement cycle. They are as follows:

- Risk Frame – Establishes the context for making risk-based decisions
- Risk Assessment – Addresses how the agency will assess risk within the context of the risk frame; identifying threats, harm, impact, vulnerabilities and likelihood of occurrence
- Risk Response – Addresses how the agency responds to risk once the level of risk is determined based on the results of the risk assessment; e.g., avoid, mitigate, accept risk, share or transfer
- Risk Monitoring – Addresses how the agency monitors risk over time; “Are we achieving desired outcomes?”

The OPI has implemented Management Controls such as security appointments, key contacts and information system owners. Additionally, Operational Controls such as Physical and Environmental Security, Incident Handling Procedures and Awareness, Training and Education have been adopted. The agency is currently updating and expanding the Operational Control, Preparing for Contingencies and Disasters, with plans to architect a warm location for offsite backup and recovery.

The agency's information security management program is challenged with limited resources; manpower and funding. While alternatives are reviewed and mitigation efforts are implemented the level of acceptable risk is constantly challenged by the ever changing technology and associated risks from growing attacks and social structure changes. Specific vulnerabilities have been identified which require restructure, new equipment, or personnel positions (funds increase), and are addressed below in our future plans.

Future Security Program Plans

To this point, the biggest issue identified by the Office of Public Instruction (OPI) in developing and adopting a Security Program has been in not having a funded position to specifically develop the program. A request to fund such a position has been made by the Office of Public Instruction through the EPP process. Regardless of the outcome of that request, the OPI will further implement other NIST Controls in the coming years.

Operational Controls to address the following: 1) Preparing for Contingencies and Disasters, 2) Incident Handling Procedures, and; 3) Awareness, Training and Education should be implemented in the next year. Completion of the Management Controls should come over the next year as well. Hopefully, with the acquisition of a fully funded position for the purpose of running the Security Program and implementing NIST Controls, the OPI should begin performing Risk Assessments the following year.

Continuity of Operations (COOP) Capability Program General Description

On 4/1/2010 the Information Technology division joined with the Department of Administration *Continuity Services* for the development of our agency's Continuity of Operations Capabilities, which will provide the plans and structure to facilitate response and recovery capabilities to ensure the continued performance of the State Essential Functions of Government. This program involves two Blocks of focus; the first is to complete the Business Continuity Plans (BCP) involving two phases, the second Block works on the specific business processes or activity plans such as Emergency Action Plans (EAP), Information System Contingency Plan (ISCP), Communications Plans, Incident Management Plans, and more. We have nearly completed phase 1 of 2 BCP phases and expect full completion of both Blocks by 12/1/2013. This program is not a standalone process in that information which is identified and recorded under this structure can and often exists in the Records Management Program and associates with Information Security Management Program requirements.

Integration of these three programs is critical to the confidentiality, integrity, and availability of information, which is associated with each program.

Future COOP Program Plans

Once both Blocks of the plan are complete, focus will shift to integration with Records Management and Information Security Management programs. The most critical task moving forward is keeping the plan current. This is a living document and the agency is committed to maintaining its integrity over time. Changes in federal and state education programs, and restructuring of the agency to accommodate those changes, will necessitate revisiting and revising key components of the plan at regular intervals over the next four years.

SECTION 4: AGENCY IT PLAN – GOALS & OBJECTIVES

Goal Number 1:

IT Goal 1 Statewide Longitudinal Systems Data Warehouse

Description: In this project, OPI will: (1) create an enterprise-wide data architecture to map the future for Montana's educational data systems, (2) create a data governance structure, (3) establish a data warehouse and migrate data from numerous legacy data systems to the data warehouse, and (4) implement business intelligence tools to make the data accessible for many different users.

The establishment of a data warehouse and the accomplishment of the related objectives will lay the foundation for a longitudinal data system with long-lasting benefits for public education in Montana. In 2010, OPI completed an enterprise-wide architecture, which provides a blueprint for the data warehouse and for the consolidation, coordination and expanded use of the entire K12 educational data system. It also facilitates interoperability with pre-Kindergarten and post-secondary data systems.

Data is being migrated to the data warehouse from all major databases currently in use at the OPI. The consolidation of this data will allow the information to be combined and queried in ways that are now extremely labor intensive and therefore infrequently used.

Timely and accurate data and the powerful analyses made possible by the business intelligence tools will be invaluable for the State Superintendent and the OPI, the Governor and the legislature, the Montana Board of Public Education (K12), boards of trustees, administrators and teachers. It will assist in policy and resource allocation decisions.

Benefits: The data warehouse is the backbone of the statewide longitudinal data system. Such a system makes it possible to use growth models both for school accountability and for improving instruction of individual students. It will facilitate federal and state reporting and it will allow more individualized tracking, instruction and intervention with students by teachers and administrators. In the future, this foundation will make possible parental tracking of student progress and greater public transparency of what is happening in schools. The foundation of all these beneficial outcomes for the Montana educational system is a data warehouse that makes possible a longitudinal data system.

Does this goal support the State IT Strategic Plan? This goal supports the state Goal 3: Build an infrastructure/architecture that provides citizens and employees of the state access to information however and whenever they need it.

Supporting Objective/Action

Objective 1-1 Establish a data warehouse and migrate data from legacy data systems – In order to expose the data for use by the agency and other interested parties, a data warehouse will be created utilizing the rules established in the enterprise architecture and under the oversight of the data governance committee.

Describe the business requirements or business problem driving this objective: The OPI is using the data warehouse to meet state and federal student data reporting mandates as well as the agencies obligation to report information to the general public on the performance of public schools within Montana.

Describe the benefits to be derived from the successful completion of this objective: The data warehouse will provide a single location containing consistently interpreted data for all required reporting, resulting in highly accurate reports that can be created in a timely fashion.

Describe the anticipated risks associated with this objective: The agency has a wealth of data to be migrated from a variety of sources. These sources have varied over time and must be consolidated into a single database.

Describe how this objective supports the agency IT goal: The data warehouse will facilitate the ability to meet state and federal reporting mandates.

What is the timeframe for completion of this objective: Q3 2012

Describe the critical success factors associated with this objective; i.e., how will you know when it has been successfully completed?: The data warehouse is created and used for reporting purposes.

Supporting Objective/Action

Objective 1-2 Implement business intelligence tools – In order to effectively use the data stored in the warehouse and to assist in the analysis and presentation of the data a robust business intelligence tool will be implemented.

Describe the business requirements or business problem driving this objective: The OPI is using the business intelligence tools in conjunction with the data warehouse to meet state and federal student data reporting mandates as well as the agencies obligation to report information to the general public on the performance of public schools within Montana

Describe the benefits to be derived from the successful completion of this objective: Easy access to a consolidated view of the data OPI houses and compliance with the requirements of 20-7-104, MCA for transparency and public access to education data

Describe the anticipated risks associated with this objective: There are different constituencies for the tool with competing requirements.

Describe how this objective supports the agency IT goal: The business intelligence tool will facilitate the ability to meet state and federal reporting mandates and the agencies obligation to present data to the general public.

What is the timeframe for completion of this objective: Q42012

Describe the critical success factors associated with this objective; i.e., how will you know when it has been successfully completed?: A tool is in place and used as part of the agency's day to day operation.

Goal Number 2:

IT Goal 2 Improve Information Technology Efficiencies and Capabilities

Description: Improve network efficiencies and capabilities by implementing new technologies when older technologies no longer serve their function and the mission of the office.

Benefits: Reduced cost, improved employee and program efficiencies, as well as customer satisfaction with related information and availability of services.

Does this goal support the State IT Strategic Plan? If so, how? This goal supports the state Goal 1: Achieve maximum value of information through the active management of information technology.

Supporting Objective/Action

Objective 2-1 Utilize virtual servers and consolidate servers where applicable

Describe the business requirements or business problem driving this objective: Our goal is to reduce the number of servers needed while maintaining the level of service necessary to satisfactorily perform OPI business.

Describe the benefits to be derived from the successful completion of this objective: Utilizing virtual servers and consolidating servers will save money by reducing operational/energy costs (cooling and power) associated with our data center facilities.

Describe the anticipated risks associated with this objective: Server hardware failure will take down multiple servers. Installing applications which do not peacefully co-exist on a server causing server failures

and a reduction in server response due to overload.

Describe how this objective supports the agency IT goal: This objective supports the IT goal to provide quality information services and products to the OPI and K-12 public schools.

What is the timeframe for completion of this objective: Q3 2012

Describe the critical success factors associated with this objective; i.e., how will you know when it has been successfully completed?: When the number of servers has been significantly reduced and the environment is still able to support the OPI mission.

Objective 2-2 Convert existing MS Access applications to .NET – Migrate existing MS Access applications to .NET web/Windows applications as time, resources and/or needs dictate.

Describe the business requirements or business problem driving this objective: Ease of use for the business.

Describe the benefits to be derived from the successful completion of this objective: Users will benefit due to having easier to use applications that are more robust and modern. IT staff will benefit from reduced maintenance and support costs.

Describe the anticipated risks associated with this objective: The risks are minor and related to the possibility of the introduction of defects when the interface is rewritten. Regression tests will be performed to mitigate the risk.

Describe how this objective supports the agency IT goal: The resulting applications will run more efficiently in .NET than Access.

What is the timeframe for completion of this objective: Q4 2012

Describe the critical success factors associated with this objective; i.e., how will you know when it has been successfully completed?: The objective will be complete once all Access applications are rewritten and accepted by the business for production use.

Objective 2-3 Increase use of video streaming and video conferencing

Describe the business requirements or business problem driving this objective: The rising cost of fuel and travel necessitate a more cost effective method of training and providing examples to school district personnel. Video conferencing can save fuel and staff time by limiting travel while video on demand can be delivered over the internet, 24-7-365, freeing staff for day-to-day operations.

Describe the benefits to be derived from the successful completion of this objective: Reduced travel costs while maintaining a high level of interaction with the OPI's constituents.

Describe the anticipated risks associated with this objective: Increased use of internet bandwidth.

Describe how this objective supports the agency IT goal: Provide quality information services to the OPI and Montana's K-12 public schools.

What is the timeframe for completion of this objective: Ongoing

Describe the critical success factors associated with this objective; i.e., how will you know when it has been successfully completed?: Increased use of this technology and reduction in travel expenses.

Goal Number 3:

IT Goal 3 New application development

Description: There are several upcoming projects that will need to have applications developed. These efforts may require purchasing an off the shelf product, some may be developed in-house, and others may

require the services of a contractor. Each application will be evaluated to determine the best use of existing tools, staff, and budget.

Benefits: The OPI is required to comply with many state and federal mandates for reporting data. The applications listed below will streamline the process and make decisions and actions based on these decisions more timely and accurate.

Does this goal support the State IT Strategic Plan? This goal supports the state Goal 3: Build an infrastructure/architecture that provides citizens and employees of the state access to information however and whenever they need it.

Supporting Objective/Action

Objective 3-1 Develop an Educator Licensure application - The Educator Licensure application will replace the existing educator licensure system and will facilitate the licensing process including the capture of educator qualifications, credentials, and experience and will maintain licensure status.

Describe the business requirements or business problem driving this objective: Inform state policymakers who are responsible for setting licensure standards and developing education initiatives; and meet state and federal reporting requirements.

Describe the benefits to be derived from the successful completion of this objective: The new system will provide for quick efficient licensing of educators and maintain an ongoing record of educator licenses and endorsements

Describe the anticipated risks associated with this objective: This project replaces an existing, but outdated system. It must assume the functionality of the existing system seamlessly, to ensure that the licensure process can continue.

Describe how this objective supports the agency IT goal: This supports the OPI IT goal to provide quality information services and products to the OPI to support and improve public education in Montana.

What is the timeframe for completion of this objective: Q4 2012

Describe the critical success factors associated with this objective; i.e., how will you know when it has been successfully completed?: The project will be considered complete when the existing licensure system can be retired.

Objective 3-2 Replace the current web report card application with a new tool

Describe the business requirements or business problem driving this objective: Update or replace the existing NCLB Report Card. The current software used to display the report card is out of date which results in issues for public viewing.

Describe the benefits to be derived from the successful completion of this objective: The NCLB report card will be more easily maintained and easier to access by the general public.

Describe the anticipated risks associated with this objective: The Report Card is a complicated report that pulls data from different sources. Significant testing will need to be completed to mitigate this risk.

Describe how this objective supports the agency IT goal: Replacing the report card will make complying with the Federal mandate of publishing NCLB data easier as well as making the data easier to view by the general public.

What is the timeframe for completion of this objective: Q3 2013

Describe the critical success factors associated with this objective; i.e., how will you know when it has been successfully completed?: The project will be considered complete once the new report card is posted to the web using updated technology.

Objective 3-3 Direct certification data matching - Match students in AIM with children of parents who apply for SNAP-Supplemental Nutrition Assistance Program to determine eligibility for free/reduced lunch.

Describe the business requirements or business problem driving this objective: Increase/maximize the usage of the Free and Reduced Price Meals program in order to provide the best level of service to Montana students.

Describe the benefits to be derived from the successful completion of this objective: The OPI will be able to automatically match a significant portion of students between DPHHS and AIM and save the schools time and money. Additionally, individual schools will have a better list of students that may be eligible for the Free and Reduced Price Meals program.

Describe the anticipated risks associated with this objective: There is limited shared data between the systems which may result in inflated results. This risk will be mitigated via documented business processes.

Describe how this objective supports the agency IT goal: This supports the goal of supplying information for individuals to quick and accurate decisions based on the best data available.

What is the timeframe for completion of this objective: Q2 2013

Describe the critical success factors associated with this objective; i.e., how will you know when it has been successfully completed?: The project will be considered a success when we provide a list to each school that contains students that may be eligible for the Free and Reduced lunch program.

Goal Number 4:

IT Goal 4 Records Management

Description: Work with the Department of Administration, eRIM committee and the Secretary of State Office to implement an enterprise solution for electronic records management.

Benefits: Records are easier to locate when needed, will save time and effort locating the records. Standards could be defined as to retention, metadata, archiving, classification, etc.

Does this goal support the State IT Strategic Plan? This goal supports the state Goal 4: Enhance the reliability and security of the state's information systems

Supporting Objective/Action

Objective 4-1 Develop an electronic records management application and policy

Describe the business requirements or business problem driving this objective: All state agencies are required to maintain public records. It is important for the agency to have consistent accessibility to its records and to protect an individual's right to privacy and confidentiality. To accomplish this objective, the OPI will maintain its records in a secure environment and limit access rights to authorized staff. A semi-annual report of authorized staff with read and write access to sensitive files will be filed with the Records Management Committee.

Describe the benefits to be derived from the successful completion of this objective: Ensure official records are accessed by appropriate parties and kept in a secure environment.

Describe the anticipated risks associated with this objective: By not implementing this goal, the potential to lose important records is increased. There is also a risk of the compromising of accuracy, privacy, and authenticity of records.

Describe how this objective supports the agency IT goal: This is a step towards assuring official and secure records for the agency and protecting the public's privacy and confidentiality.

What is the timeframe for completion of this objective: Q3 2012

Describe the critical success factors associated with this objective; i.e., how will you know when it has been successfully completed?: When the new policy is approved by the Superintendent of Public Instruction and all staff are trained and aware of the amended RM policy.

Goal Number 5:

IT Goal 5 Project Management Development

Description: Further develop the Project Management practice within the OPI including coordinating with the SITSD Project Management Office, supporting ongoing training, using standard methodologies for repeatable processes and facilitating IT project portfolio management. Ensure IT projects are being driven by business needs and effective contract management.

Benefits: Project management practices have been demonstrated to improve the probability of success of projects and help ensure that projects are completed on time, on budget and that they meet the needs of the agency.

Does this goal support the State IT Strategic Plan? The goal supports state Goal 5: Develop and implement an information technology governance structure for delivery of expected benefits

Supporting Objective/Action

Objective 5-1 Implement Best Practices - The OPI will use standard project management methodologies and coordinate with PMOAG to ensure our practices are in line with SITSD preferences.

Describe the business requirements or business problem driving this objective: Ensure projects are successful.

Describe the benefits to be derived from the successful completion of this objective: Systems will be managed using the best technology methodologies in an organized and cost-effective manner.

Describe the anticipated risks associated with this objective: Standardize and introduce economies of repetition in the execution of projects.

Describe how this objective supports the agency IT goal: Provide the structure needed to standardize project management practices, determine methodologies for repeatable processes.

What is the timeframe for completion of this objective: Ongoing

Describe the critical success factors associated with this objective; i.e., how will you know when it has been successfully completed? Projects are successfully completed.

Objective 5-2 Effective Contract Management - Effective contract management will ensure the OPI and vendors under contract fully meet our respective obligations as efficiently and effectively as possible.

Describe the business requirements or business problem driving this objective: Ensure projects are completed successfully and as effectively as possible.

Describe the benefits to be derived from the successful completion of this objective: Make realistic evaluations of costs and benefits, avoid critical risks, and monitor and manage contractor compliance/performance.

Describe the anticipated risks associated with this objective: Inadequate scope and deliverable management increasing time and cost to project.

Describe how this objective supports the agency IT goal: Ensure IT projects are being driven by

business needs and effective contract management.

What is the timeframe for completion of this objective: Ongoing

Describe the critical success factors associated with this objective; i.e., how will you know when it has been successfully completed?: Projects are successfully completed as efficiently and effectively as possible. Management reports can be generated to provide information on the type of contracts, cost and schedule for contract completion.

Goal Number 6:

IT Goal 6 Electronic Student Transcript Data System

Description: The focus of this goal is to address data collection and data linkages among K-12 education and postsecondary institutions. Specifically, this goal is intended to address Montana's required data system elements under 20-7-104,MCA and for the Data Quality Campaign:

- the capacity to communicate with higher education data systems;
- student-level transcript information, including information on courses completed and grades earned;
- information regarding the extent to which students transition successfully from secondary school to postsecondary education, including whether students enroll in remedial coursework; and
- other information determined necessary to address alignment and adequate preparation for success in postsecondary education.

Benefits: The Student e-Transcript data system will build on the SLDS data warehouse (see Goal 1). This goal will establish stronger links between the K-12 education data housed within the OPI and Montana post-secondary data to allow for better analysis of student outcomes over the course of their education life. Such a system makes it possible to use growth models both for school accountability and for improving instruction of individual students. It will facilitate federal and state reporting, and it will allow more individualized tracking, instruction and intervention with students by teachers and administrators.

Does this goal support the State IT Strategic Plan? This goal supports the state Goal 3: Build an infrastructure/architecture that provides citizens and employees of the state access to information however and whenever they need it.

Supporting Objective/Action

Objective 6-1 Add the statewide student ID to all high school transcripts.

Describe the business requirements or business problem driving this objective:

Higher Education Institutions in Montana need the student ID in order to effectively link an individual's K-12 education information to their higher education information.

Describe the benefits to be derived from the successful completion of this objective:

Using a common student ID for K-20 will allow better analysis of how a student's K-12 education impacts their higher education experience.

Describe the anticipated risks associated with this objective: Transcripts are prepared at the district level, so a coordination effort will be required amongst all districts within Montana.

Describe how this objective supports the agency IT goal: Information gathered by linking K-12 data to higher education data will allow the OPI to analyze how well the K-12 systems are preparing students for post-secondary work.

What is the timeframe for completion of this objective: Completed

Describe the critical success factors associated with this objective; i.e., how will you

know when it has been successfully completed?: All high school transcripts contain the statewide student ID.

Objective 6-2 Establish data linkages to connect data from K-12 to postsecondary

Describe the business requirements or business problem driving this objective: Link K-12 data with OCHE to allow better tracking of students throughout their educational career improve K-12 education in order to prepare students for higher education.

Describe the benefits to be derived from the successful completion of this objective: Improved educational opportunities for students.

Describe the anticipated risks associated with this objective: Dependent on obtaining adequate funding to complete the project.

Describe how this objective supports the agency IT goal: This objective supports the IT goal to provide quality information services and products to the OPI and K-12 public schools

What is the timeframe for completion of this objective: Q3 2015

Describe the critical success factors associated with this objective; i.e., how will you know when it has been successfully completed?: The objective will be complete when the OPI and OCHE exchange data on a regular basis.

Objective 6-3 Create an electronic student transcript repository for K-12 education

Describe the business requirements or business problem driving this objective: The OPI needs to facilitate the collection and distribution of K-12 transcripts.

Describe the benefits to be derived from the successful completion of this objective: The information associated with the transcripts is an important component of the Student Transcript data warehouse and can be used to assist decision-makers in assessing state and local efforts to increase student performance and career readiness.

Describe the anticipated risks associated with this objective: Dependent on obtaining adequate funding to complete the project.

Describe how this objective supports the agency IT goal: This objective supports the IT goal to provide quality information services and products to the OPI and K-12 public schools.

What is the timeframe for completion of this objective: Q3 2015

Describe the critical success factors associated with this objective; i.e., how will you know when it has been successfully completed?: K-12 transcripts are available for transmission to qualified requestors.

Objective 6-4 Create an Interagency K-20 Data Governance Workgroup

Describe the business requirements or business problem driving this objective: Expand the data governance model established in the data warehouse initiative (see Goal #1) to include all stakeholders with K-20 data.

Describe the benefits to be derived from the successful completion of this objective: As data is exchanged between agencies, there will be a need to have a forum to discuss and control the data that is being shared.

Describe the anticipated risks associated with this objective: Dependent on obtaining adequate funding to complete the project.

Describe how this objective supports the agency IT goal: This objective supports the IT goal to provide quality information services and products to the OPI and K-12 public schools

What is the timeframe for completion of this objective: Q3 2015

Describe the critical success factors associated with this objective; i.e., how will you know when it has been successfully completed?: Success will be measured by having regular meetings for all K-20 stakeholders.

Objective 6-5 Implement business intelligence and web reporting tools for users of K-20 data

Describe the business requirements or business problem driving this objective: Expand the business intelligence tool established by the data warehouse project (see Goal 1) to include K-20 data.

Describe the benefits to be derived from the successful completion of this objective: Allow the analysis of K-20 data to improve education within Montana.

Describe the anticipated risks associated with this objective: Dependent on obtaining adequate funding to complete the project.

Describe how this objective supports the agency IT goal: This objective supports the IT goal to provide quality information services and products to the OPI and K-12 public schools

What is the timeframe for completion of this objective: Q3 2015

Describe the critical success factors associated with this objective; i.e., how will you know when it has been successfully completed?: The business intelligence tool encompasses K-20 data.

Objective 6-6 Develop a system of K-20 performance measurement and reporting

Describe the business requirements or business problem driving this objective: OPI has agreed to Shared Policy Goals with the legislature, OCHE and the Board of Public Education. The agreement includes objectives and performance measures for K-12 and K-20 efforts. OPI's information systems support the state's efforts to raise high school graduation rates and to ensure that students graduate college- and career-ready.

Describe the benefits to be derived from the successful completion of this objective: Allow the analysis of K-20 data to improve education within Montana.

Describe the anticipated risks associated with this objective: Dependent on obtaining adequate funding to complete the project.

Describe how this objective supports the agency IT goal: This objective supports the IT goal to provide quality information services and products to the OPI and K-12 public schools.

What is the timeframe for completion of this objective: Q3 2015

Describe the critical success factors associated with this objective; i.e., how will you know when it has been successfully completed?: Reports and measures for K-20 data are agreed upon and produced on a regular basis.

Goal Number 7:

IT Goal 7 **Improve the security environment for the agency**

Description: The OPI has many security policies and procedures in place and reviews them on a regular basis. With the recent adoption of the Information Security Program policy, the agency will have to take a fresh look at its security practices and implement additional process and procedures in order to comply with the new statewide policy.

Benefits: This goal will result in a more secure environment for the data housed within the

agency.

Does this goal support the State IT Strategic Plan? This goal supports the state goal to develop IT resources in an organized, deliberative, and cost-effective manner and the goal to improve government services.

Supporting Objective/Action

Objective 7-1 Implement the appropriate NIST guidelines within the agency

Describe the business requirements or business problem driving this objective: In order to comply with the new statewide security policy, NIST guidelines must be interpreted and implemented within the agency.

Describe the benefits to be derived from the successful completion of this objective: A more secure environment for agency data and greater insight into the security of agency systems.

Describe the anticipated risks associated with this objective: The NIST guidelines are lengthy and the resulting processes could be labor intensive. Without additional resources, it will be difficult meeting the stated timeframe.

Describe how this objective supports the agency IT goal: This objective will ensure that the data used for analysis and provided to regulators and other stakeholders is secure.

What is the timeframe for completion of this objective: Q3 2013

Describe the critical success factors associated with this objective; i.e., how will you know when it has been successfully completed?: This objective will be considered complete when the agency successfully passes a security audit.

Objective 7-2 Institute an enterprise identity management system to control the provisioning and authentication of accounts with access to OPI data

Describe the business requirements or business problem driving this objective: As the OPI collects and stores additional data about the student population, the effective control of access to this data is crucial to maintaining the required confidentiality.

Describe the benefits to be derived from the successful completion of this objective: Insures only individuals with a legitimate need have access to data housed within the OPI.

Describe the anticipated risks associated with this objective: Without effective identity management it is possible individuals who change responsibilities could retain access to data they no longer need.

Describe how this objective supports the agency IT goal: This objective supports the IT goal to provide quality information services and products to the OPI and K-12 public schools.

What is the timeframe for completion of this objective: Q4 2012

Describe the critical success factors associated with this objective; i.e., how will you know when it has been successfully completed?: A robust identity management system is used to control access to OPI's data.

Objective 7-3 Update the disaster recovery plan and create a Continuity of Operations Plan - The OPI currently has a disaster recovery plan for an agency-specific failure, but does not have a complete Continuity of Operations Plan. The OPI will work with the Department of

Administration to prepare and test such a plan.

Describe the business requirements or business problem driving this objective:

The ability to recover OPI critical applications and continue to provide government services to the public, school districts, and the OPI staff.

Describe the benefits to be derived from the successful completion of this

objective: Protects investment and allows for business continuity in the event of a disaster.

Describe the anticipated risks associated with this objective: The risk of not fulfilling this objective is that critical services will not be provided and student and financial data would not be recovered.

Describe how this objective supports the agency IT goal: This objective supports the IT goal to provide quality information services and products to the OPI and K-12 public schools.

What is the timeframe for completion of this objective: Q4 2012

Describe the critical success factors associated with this objective; i.e., how will you know when it has been successfully completed?: These plans will need to be continually tested and refined as the agency mission and/or goals change and as critical applications come on line or are no longer needed.

SECTION 5: IT INITIATIVES (FY2012 – FY 2017)

Initiative 1 GEMS - Statewide Longitudinal Data System (SLDS)

Description: In this project, OPI will: (1) create an enterprise-wide data architecture to map the future for Montana's educational data system, (2) create a data governance structure, (3) establish a data warehouse and migrate data from numerous legacy data systems to the data warehouse, and (4) implement business intelligence tools to make the data accessible for many different users. This project is a four year effort beginning in 2010 and is funded via a federal grant for \$5,800,000.

EPP Number (if applicable) TBD – EPP item covers only the ongoing costs, estimated at \$57,900 per annum.

Initiative 2 Educator Licensure

Description: The school staffing application will integrate educator information from several sources, including salary and benefits; educator qualifications, credentials, and experience; licensure status; and school and district personnel assignments. The budget for this project is \$400,000.

EPP Number (if applicable) N/A

Initiative 3 Electronic Student Transcript Data Systems

Description: The focus of this goal is to address data linkages among early childhood programs, K-12 education, postsecondary institutions and the workforce development services. Specifically, this goal is intended to address Montana's required data system elements under 20-7-104, MCA; the America COMPETES Act, and for the Data Quality Campaign:

- the capacity to communicate with higher education data systems;
- student-level transcript information, including information on courses completed and grades earned;
- information regarding the extent to which students transition successfully from secondary school to postsecondary education, including whether students enroll in remedial coursework; and
- other information determined necessary to address alignment and adequate preparation for success in postsecondary education.

EPP Number (if applicable) TBD

Initiative 4 Direct Certification Data matching

Description: Match students in AIM with children of parents who apply for food stamps to determine eligibility for free/reduced lunch. The system will be built in a fashion that will allow the OPI to reuse the matching capabilities with other data as the need arises. The project is a 2 year effort funded via a \$950,000 grant from the USDA

EPP Number (if applicable) N/A

SECTION 6: ENTERPRISE ALIGNMENT

Communities of Interest Participation

☐ Government Services

☐ Public Safety

☒ Human Resources

☐ Environmental

☒ Education

☐ Economic

☐ Cultural Affairs

☐ Finance

SECTION 7: PLANNED AGENCY IT EXPENDITURES

<u>Expense Category</u>	<u>FY2012</u>	<u>FY2013</u>	<u>FY2014</u>	<u>FY2015</u>	<u>FY2016</u>	<u>FY2017</u>
Personal Services	1,881,327	1,881,327	1,881,327	1,881,327	1,881,327	1,881,327
Operating Expenses	1,882,500	1,890,750	1,899,825	1,909,807	1,920,788	1,975,967
Initiatives	1,260,295	3,933,248	2,394,250	307,300	0	0
Other expenditures	12,000	12,000	12,000	12,000	12,000	12,000
Totals	5,036,122	7,717,325	6,187,402	4,110,434	3,814,115	3,869,294

SECTION 8: ADDITIONAL INFORMATION - OPTIONAL

Other types of information that support the agency's IT Plan. Some examples might include other COI participation, reference to other IT plans such as GIS plan, eGovernment plan, security plan, staffing issues and constraints, etc.